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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,075	04/24/2001	Jun Hoshii	206556US2	2179

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EXAMINER	
HUNTSINGER, PETER K	

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/840,075	HOSHII ET AL.	
	Examiner	Art Unit	
	Peter K. Huntsinger	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,12,13,23,24 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,12,13,23,24 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 2, 12, 13, 23, 24, and 34 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

2. Claims 1, 2, and 34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1, 2, and 34 are drawn to a computer implemented process that merely manipulates data or an abstract idea, or merely solves a mathematical problem without a limitation to a practical application in the technological arts.

In order for a claimed invention to accomplish a practical application, it must produce a "useful, concrete and tangible result" *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02 (see MPEP 2106.II.A). A practical application can be achieved through recitation of "a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan", or "limited to a practical application within the technological arts" (MPEP 3106 IVB2(b)). Currently, claims 1, 2, and 34 meet neither of these criteria. In order for the claimed process to produce a "useful, concrete and tangible" result, recitation of one or more of the following elements is suggested:

- The manipulation of data that represents a physical object or activity transformed from outside the computer (MPEP 2106 IVB2(b)(i)).

- A recitation of a physical transformation outside the computer, for example in the form of pre or post computer processing activity (MPEP 2106 IVB2(b)(i)).
- A direct recitation of a practical application in the technological arts (MPEP 2106 IVB2(b)(ii)).

3. Further, Claims 1, 2, and 34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1, 2, and 34 are drawn to functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1(a) (Functional Descriptive Material) states:

"Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer."

"Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized."

Claims 1, 2, and 34, while defining a medium, does not define a "computer-readable medium" and is thus non-statutory for that reason. A medium can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The.examiner suggests amending the claim to embody the program on "computer-readable medium" in order to make the claim statutory.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 12, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. Patent 5,953,463, and further in view of Athitsos et al.

Referring to claims 1, 12, and 23, Tanaka et al. disclose a medium whereon an image data interpolation program has been recorded to implement pixel interpolation to image data of an image represented in multi-tone dot matrix pixels on a computer, said medium with the image data interpolation program recorded thereon, after being set ready for use on a computer, making the computer perform: a function of image data acquisition that acquires said image data; a first interpolation processing function that interpolates pixels to said image data without decreasing the degree of tone value difference between the existing pixels (nearest neighbor interpolation, col. 1, lines 20-27); a second interpolation processing function that interpolates pixels to said image data without affecting the gradation of the tones of the image (linear interpolation, col. 1, lines 28-42); and a function of determing if the image is a non-natural image or a natural image, or that it cannot be determined whether the image is either a natural image nor a non-natural image (col. 9, lines 7-16), said determination that the image is a non-natural image resulting in said first interpolation processing function, said determination that the image is a natural image resulting in said second interpolation processing function (col.

13, lines 38-58), and if the image data cannot be determined to be either said natural image or said non-natural image, both the first and second interpolation processing functions are performed and results from the first and second interpolation processing functions are blended (col. 16, lines 38-42). Tanaka et al. do not disclose expressly determining whether an image is a natural or a non-natural image based on brightness. Athitsos et al. teach that an image can be determined to be natural or non-natural based on brightness data of said acquired image data (section 3.2 of page 11). Tanaka et al. and Athitsos et al. are combinable because they are from the same field of image interpolation. At the time of the invention, it would have obvious to a person of ordinary skill in the art to determine if an image is a natural or non-natural image based on brightness. The motivation for doing so would have been to utilize a computer to accurately determine image types. Therefore, it would have been obvious to combine Athitsos et al. with Tanaka et al. to obtain the invention as specified in claims 1, 12, and 23.

6. Claims 2, 13, 24, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. Patent 5,953,463, and Athitsos et al. as applied to claims 1, 12, and 23 above, and further in view of Sekine et al. Patent No. 5,754,710.

Referring to claims 2, 13, 24, and 34, Tanaka et al. disclose nearest neighbor interpolation but do not disclose expressly pattern matching interpolation. Sekine et al. disclose pattern matching interpolation (col. 5, lines 43-47). Tanaka et al. and Sekine et al. are combinable because they are from the same field of image interpolation. At the

time of the invention, it would have been obvious to a person of ordinary skill in the art to implement pattern matching interpolation. The motivation for doing so would have been to improve speed or image sharpness over other interpolation processes. Therefore, it would have been obvious to combine Sekine et al. with Tanaka et al. and Athitsos et al. as specified in claims 2, 13, 24, and 34.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (571)272-7435. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (571)272-7471. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PKH

KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER